Medical Biochemistry

Objective
By the end of the elective, students will be able to: -Demonstrate a general understanding of the various uses and limitations of laboratory tests -Explain basic laboratory concepts (e.g. precision vs. accuracy, sensitivity vs. specificity vs. predictive value, reference ranges and their derivation, internal and external quality control, different phases of the testing process, turnaround time, critical values, etc.) -List pre- and post-analytical factors which can impact laboratory test results -Appropriately select (in the proper sequence) and interpret laboratory tests in common pathological conditions, and explain the clinical significance of an abnormal value -Discuss the consequences of ordering clinically irrelevant tests or unnecessarily repeating previous tests -Appreciate the relative costs and availabilities of common vs. esoteric laboratory tests -Recognize the accessibility of Medical Biochemistry/Clinical Chemistry staff as a resource for clinicians for any laboratory-related queries

Description
Medical Biochemistry is a unique subspecialty of Internal Medicine that integrates clinical knowledge with biochemical analytical principles of the laboratory. In this elective, students will learn about the vital role of the laboratory in clinical care and decision-making. Activities will vary from day-to-day and will consist of the following: learning about the appropriate selection, sequence, and interpretation of laboratory tests as questions/cases come up during the week; providing consultations to physicians for complex or unusual laboratory results; reviewing requests for esoteric laboratory tests; investigating anomalous laboratory values inconsistent with the clinical presentation; signing out protein electrophoresis gels, chromatograms, and endocrinology results; and reviewing protocols for various dynamic endocrinology tests.